From: James Sherrard <jsherrard@willistonvt.org>
Sent: Thursday, April 14, 2016 8:50 AM
To: Burke, Kevin
Cc: Monks, Padraic
Subject: Draft SW Manual Comments_Williston Stormwater Coordinator_4/14/16
Attachments: Town of Williston SW Coordinator Comments on 3.14.16 Draft SWMM_.pdf

Mr. Burke,

Thank you for the opportunity to comment on the VT Draft SW Manual. Additionally I would like to thank you and other State Staff for presenting the manual in such a detailed manner over the past few weeks.

James A. Sherrard Jr.

Town of Williston

Stormwater Coordinator

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April 14, 2016

Mr. Kevin Burke
Vermont Agency of Natural Resources
Vermont Department of Environmental Conservation (DEC)
1 National Life Drive
Montpelier, VT 05620

RE: Town of Williston Stormwater Coordinator Comments on the draft Vermont Stormwater Management Manual

Dear Mr. Burke,
The Stormwater Coordinator for the Town of Williston submits the following comments to the Department of Environmental Conservation (DEC) on the draft Vermont Stormwater Management Manual (draft VSMM).

Compost
The Draft Manual states that "Compost and other materials shall meet organic content and contaminant limit requirements of the Vermont Solid Waste Management Rules §6-11 and this practice standard." However in the section referenced there is no mention of phosphorus concentrations contained within compost. While individual treatment systems, such as Bioretention, reference phosphorus standards (pg. 4-60 of Draft Manual) ***compost for use in STPs should be more rigorously defined in its own dedicated section.***

Soil Amendments for Phosphorus Reduction
Soil amendments, including water treatment residuals, have been shown to increase phosphorus removal when used as part of a bioretention soil mix. As opposed to requiring certification as an Alternative Stormwater Treatment Practice ***the use of soil amendments for the purpose of pollutant removal should be incorporated into this manual.***

Separate Rain Gardens and Bioretention Systems
Rain gardens and bioretention are two separate systems and should be treated as such in the stormwater manual. Throughout the manual rain gardens and bioretention systems are seemingly used interchangeably as shown by the heading "4.3.1 Bioretention Areas and Rain Gardens". However, in this section the bioretention system is the only system with supporting information such as design summary, cross sections and feasibility discussion.
Rain gardens, while an important tool for single family residential parcels, is not a rigorous approach to water quality nor quantity control. The VT Rain Garden Manual is not a technical design document for engineers. Two critiques to the Rain Garden Manual itself include the use of compost as an amendment (See compost discussion above) and the use of bioretention system from Portland Oregon as visual examples for rain garden systems. Lastly, what truly makes a bioretention system is the bioretention soil mix (BSM). Rain gardens are not intended to utilize an engineered BSM and, instead, are intended to capture localized runoff and infiltrate into native soils. ***For the reasons mentioned***

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above it is suggested that rain gardens and bioretention systems are A) separated in the stormwater manual and B) that rain gardens be removed from the "Acceptable STP" section of the manual and placed in the "STPs with Limited Applicability" section.

Green Roofs
Has the DEC considered the requirement to implement green roofs on all new flat roof construction and the potential to provide re-development credits to those existing buildings with adequate slopes which wish to incorporate green roofs as part of their re-development requirements?

STP Prioritization
It is recommended that DEC prioritize for use STPs which infiltrate and filtrate over retention and detention practices. Specifically, systems such as bioretention, gravel wetlands, infiltration trenches and basins and permeable pavement practices are prioritized above wet swales and wet ponds.

WQTS Clarification
Following a presentation by State staff it became clear that clarification is required as to whether the WQTS were to apply to an individual STP or to the site as a whole. In other words, does each individual STP need to meet 50% TP and 85% TSS or is that the goal site wide regardless of what combination of STP practices one uses.
If the requirement is based on individual STPs then there is an inherent flaw in this approach. It should not matter if you use multiple BMPs which individually achieve less than 50% TP reduction if, as a whole, they achieve the WQTS standard. The following comment "Increased Phosphorus Removal Standard" is based on the assumption that the WQTS apply to the site as a whole and not individual systems.

Increased Phosphorus Removal Standard
Phosphorus removal has been increased from 40 – 50% between the 2002 and the pending stormwater manual update. In that time frame it has become clear that phosphorus removal is the primary contaminant of concern for the Lake Champlain Basin. The need to reduce phosphorus is uncontested and supported through the ongoing efforts to finalize the Lake Champlain TMDL and the increase in agricultural standards authorized through the newly passed Vermont Water Quality Act. However, the percent removal proposed in the draft manual does not reflect the seriousness of the problem we face.
According to the 2002 Manual Volume 2 wet ponds remove 49 or 51% of TP (pages 165 and 31, respectively). As wet ponds are the prevailing method of stormwater management the proposed increase from 40-50% does not change the way development will need to address phosphorus. Perhaps that is why the manual is attempting to reduce the use of wet ponds through a drainage area restriction of 10 acres or greater.
While this is not a direct quote, I have heard the following answer from State Staff with regards to why 50% TP removal was chosen, *The 50% TP removal is not what the State expects to be the standard but what they have chosen to set as*

the floor for TP removal. On a whole, we anticipate that the majority of sites will exceed this value. This seems disingenuous to me. If the State believes standard practice to far exceed the minimum, why not set the minimum higher and allow a specialized waiver or monetary offset for those sites which, after rigorous review, cannot meet the standard? Additionally, it is my understanding that engineering firms do not design far above set standards. Engineers will design for what is legal, ethical and in their client's best interest. This often entails the most affordable approach which meets minimum regulatory thresholds.

As our current method of regulating stormwater is not adequately addressing the contaminants of concern, the new TP requirement should require a shift away from our current approach to phosphorus removal. Along with increasing agricultural standards, development and re-development must do their part to address the issue of phosphorus in Lake Champlain. ***As such, a more rigorous TP removal above the proposed 50% is suggested.***

Redevelopment WQTS

Currently, the Draft Manual states for redevelopment that "A STP shall be designed to capture and treat 50% of the WQv from the redeveloped impervious area…" While this is an improvement over previous standards it is important to note that this statement may be interpreted in two separate ways as described below.

1. Re-development may capture and treat half of the contributing impervious area to the full 1" WQV event or,
2. Re-development may treat the entire contributing impervious area to a 0.5" event.

In recognition that the majority of pollutants are transported at the start of a rain event, otherwise known as the "first flush", and knowing that the majority of events are less than 0.5" annually ***it is suggested that re-development be required to treat the entire contributing impervious to a 0.5" event unless shown to be otherwise impractical.***

Sincerely,

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CC Rick McGuire, Town Manager
Bruce Hoar, Director of Public Works
Padraic Monks, DEC Stormwater Program Manager